Abstract of the Disclosure

A process is provided for preparing a commercially acceptable pharmaceutical grade microcrystalline cellulose which comprises: a) repulping a pulp, the pulp having a composition, b) pressing the pulp obtained in a; c) decompacting of the pulp obtained in b; d) feeding the pulp obtained in c) into a pre-heated reactor; e) cooking the pulp in the reactor until the pulp obtains a desired degree of polymerization, said cooking being performed at a temperature, a time, and a pressure which is a function of the desired degree of polymerization and the composition of the pulp, the cooked pulp being hydrolyzed cellulose;f) partially depressurizing the reactor;g) injecting water into the reactor; h) discharging the hydrolyzed cellulose from the reactor, i) filtrating the hydrolyzed cellulose; j) deaggregating the hydrolyzed cellulose of step i; and k) drying the hydrolyzed cellulose to form microcrystalline cellulose.